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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,971

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EXAMINER

STINSON, FRANKIE L

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

12/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,971	Applicant(s) TOSHIMA ET AL.	
	Examiner FRANKIE L. STINSON	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/17/09, 6/9/08, 1/26/07, 9/7/06</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 8-19 stand withdrawn from further consideration pursuant to 37 CFR

1.142(b) as being drawn to a nonelected species and invention, there being no

allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 8, 2009.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Asada et al. (U. S. Pat. No. 6,158,141) or Kamikawa et al. (U. S. Pat. No. 6,045,624) in view of either Mullee (U. S. Pat. No. 6,871,656) or Nam et al. (U. S. Pat. No. 5,855,077)

Re claim 1, the patents to Asada and Kamikawa'614 are cited disclosing a substrate processing system comprising:

a processing tank (27 in Asada and 41 in Kamikawa'614) for processing substrates with a processing liquid;

a drying unit 22 (in Asada and 42 in Kamikawa'624) disposed above the processing tank;

a carrying mechanism (25 in Asada and 43 in Kamikawa'624) for carrying the substrates between the processing tank and the drying unit;

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a processing gas supply line (35a, 36a in Asada and as at 97 in Kamikawa'624) for supplying a processing gas into the drying unit;

inert gas supply lines (33a, 34a in Asada and as at 96 in Kamikawa'624) for supplying an inert gas into the drying unit; and

a discharge unit (37 in Asada and as at 98, 99 in Kamikawa'624) that differs from the claim only in the recitation of a first discharge line for discharging an atmosphere purged from the drying unit; and a second discharge line for forcibly exhausting the drying unit. The patents to Mullee and Nam are each cited disclosing that it is old and well known to provide a discharge unit comprising a first discharge line (98 in Mullee and as at 61 in Nam) for discharging an atmosphere purged from the drying unit; and a second discharge line (100 in Mullee and as at 52 in Nam) for forcibly exhausting the drying unit. It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the discharge unit of either Asada or Kamikawa'624, to include a discharge unit as taught by either Mullee or Nam, with no change in their respective function, for the purpose of ensuring sufficient removal of process gases and fumes from the system. It is understood that the process fumes are toxic and harmful to the user and the environment and the removal of the gasses/fumes is paramount. It is also known to substitute one discharge unit for and equivalent functioning discharge unit (see MPEP 2144.06 SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME PURPOSE). All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination, (i.e., the combination of

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known old elements into a single device) would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Re claim 4-7, note the opened, closed and isolation states as realized by movement of element 14 in Asada and 64 in Kamikawa'624. As for the specific steps of operation, it is known that microcontroller/processors inherently have many possible control scenarios and the same of the applied prior art is clearly capable of functioning/operating as claimed with the proper programming.

In re Hutchison, 69 USPQ 138

Functional limitation must be evaluated and considered. However, it must be determined whether the functional limitation provides a positive limitation or only the ability to perform the claimed function. If it is only the ability to perform the function, the language does not constitute a limitation in any patentable sense.

MPEP 2173.05(g) Functional Limitations:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. In re Swinehart, 439 F.2d 210, 169 USPQ 226 (CCPA 1971). A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. >In Innova /Pure Water Inc. v. Safari Water Filtration Sys. Inc., 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004), the court noted that the claim

term “operatively connected” is “a general descriptive claim term frequently used in patent drafting to reflect a functional relationship between claimed components,” that is, the term “means the claimed components must be connected in a way to perform a designated function.” “In the absence of modifiers, general descriptive terms are typically construed as having their full meaning.” *Id.* at 1118, 72 USPQ2d at 1006. In the patent claim at issue, “subject to any clear and unmistakable disavowal of claim scope, the term ‘operatively connected’ takes the full breath of its ordinary meaning, i.e., said tube [is] operatively connected to said cap’ when the tube and cap are arranged in a manner capable of performing the function of filtering.” *Id.* at 1120, 72 USPQ2d at 1008.< Whether or not the functional limitation complies with 35 U.S.C. 112, second paragraph, is a different issue from whether the limitation is properly supported under 35 U.S.C. 112, first paragraph, or is distinguished over the prior art. A few examples are set forth below to illustrate situations where the issue of whether a functional limitation complies with 35 U.S.C. 112, second paragraph, was considered. It was held that the limitation used to define a radical on a chemical compound as “incapable of forming a dye with said oxidizing developing agent” although functional, was perfectly acceptable because it set definite boundaries on the patent protection sought. *In re Barr*, 444 F.2d 588, 170 USPQ 33 (CCPA 1971). In a claim that was directed to a kit of component parts capable of being assembled, the Court held that limitations such as “members adapted to be positioned” and “portions . . . being resiliently dilatable whereby said housing may be slidably positioned” serve to precisely define present structural attributes of interrelated component parts of the claimed assembly. *In re Venezia*, 530 F.2d 956, 189 USPQ 149 (CCPA 1976

APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART

>While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); < In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). “ [A]pparatus claims cover what a device is, not what a device does.” Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE APPARATUS CLAIM FROM THE PRIOR ART

A claim containing a “ recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (The preamble of claim

1 recited that the apparatus was “ for mixing flowing developer material” and the body of the claim recited “ means for mixing ..., said mixing means being stationary and completely submerged in the developer material” . The claim was rejected over a reference which taught all the structural limitations of the claim for the intended use of mixing flowing developer. However, the mixer was only partially submerged in the developer material. The Board held that the amount of submersion is immaterial to the structure of the mixer and thus the claim was properly rejected.).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applied prior as applied to claim 1 above, and further in view of Kamikawa (U. S. Pat. No. 5,369,891)

Claim 2 defines over the applied prior art only in the recitation of the inert gas supply line providing gas at heated and ordinary temperatures. Kamikawa'891 is(col. 3, lines 52-55) cited disclosing an inert gas supply line as claimed. It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the system/arrangement of either Asada or Kamikawa'624, to include an inert gas supply line as taught by Kamikawa'891, with no change in their respective function, for the purpose of providing a heated/non-heated inert gas. It is understood that at times, during the processing of substrates, specific processes may or may not required heated inert gas depending upon the type of substrate or the desired end results. All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination, (i.e., the combination of known old elements into a single device) would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applied prior as applied to claim 1 above, and further in view of either Goldman (U. S. Pat. No. 3,277,907) or Jaeger (U. S. Pat. No. 3,777,571).

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Claim 3 defines over the applied prior art only in the recitation of the discharge pipe having holes as claimed. Goldman (see fig. 6) and Jaeger (as at 14,16) are each cited disclosing the discharge pipe having holes as claimed. It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the system/arrangement of either Asada or Kamikawa'624, with no change in their respective function, to include a discharge pipe having holes as taught by either Goldman or Jaeger, for the purpose of ensuring that the same quantity of gas/fumes is/are extracted through the holes. It is old and well known that flow from or to pipes/manifold is strongest/fastest, closes to the inlet of the pipe/manifold. Graduated holes of increasing/decreasing diameters are often provided to equalize the fluid flow there through. All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination, (i.e., the combination of known old elements into a single device) would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In Elftmann et al., EPO.027, Egashira et al., Japan'065, Jones et al., Kwon et al., Kamikawa'178, Schwenkler, and Tarui et al., note the substrate treating means.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKIE L. STINSON whose telephone number is

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(571) 272-1308. The examiner can normally be reached on M-F from 5:30 am to 2:00 pm and some Saturdays from approximately 5:30 am to 11:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached on (571) 272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/FRANKIE L. STINSON/
Primary Examiner, Art Unit 1792